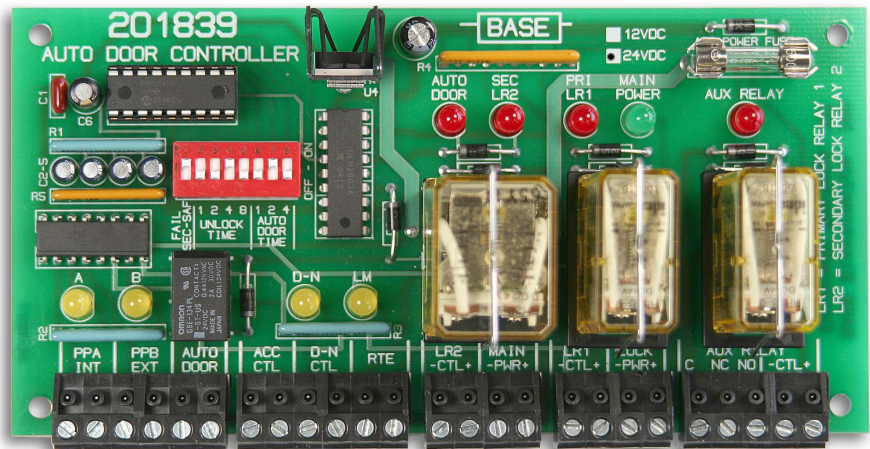


# 201839 Auto Door Controller

**BASE**

Installation and Operations Manual



<b>201839</b>	Board Only - Includes (4) Nylon Mounting Standoffs
<b>201839B</b>	201839 mounted inside a BASE EB-12x12x04KP Econo•Box (enclosure includes knockouts, removable panel, keylock and tamper switch)

## DESCRIPTION

The 201839 Auto Door Controller is a printed circuit board module that controls the operation of a motorized automatic door when used with an electric security lock. Pushbuttons or Card Readers on the inside and/or outside of the door will signal an 'open request' to the module. The module will then provide timed outputs for unlocking and opening the door in the proper sequencing to help prevent damage to the door lock and motor mechanisms. Timer settings for unlock and auto-door are dipswitch selectable.

The 201839 can monitor an external day-night contact (D-N). The module will unlock the door whenever the D-N is closed regardless of the condition of the 'open requests'.

The unit can be used with either Fail-Safe or Fail-Secure locks with no wiring differences. Lock type is dipswitch selectable.

The unit contains status LEDs for monitoring the 12 or 24 vdc input power and all input and output functions. The power input is fused and protected for reverse polarity. Opto-isolated circuit inputs provide additional protection of the processing electronics from static discharge. Several Output Relays and an independent Auxiliary relay are included to provide a wide variety of options for controlling door locks and auxiliary devices. All relays are diode isolated, removable and replaceable. The module size is 3.00 x 6.00 inches.

**CAUTION** The 201839 ADC uses static sensitive electronic parts and is not user-serviceable. Use proper ESD precautions when handling, wiring, or servicing the unit to avoid damaging internal circuitry. Damage caused by the lack of proper ESD precautions will void warranty.

**WARNING** Turn off all power feeding the module terminals before servicing or changing input/output wiring, removing or replacing fuses, etc. Failure to observe this warning may cause electrical shock hazard or may damage internal or external circuit components.

## MOUNTING THE UNIT

*Install in accordance with all applicable sections of the National Electrical Code and other State or Local Regulations.*

**201839 Board Only** - Locate the unit inside an enclosure near the automatic door to be controlled. Drill or punch (4) 0.187" diameter holes (3/16) to match the (4) corner holes in the printed circuit board. Push the nylon standoffs supplied into each hole and snap the module into place.

**201839B** - See separate instructions for mounting the Econo•Box enclosure included with the unit. The 201839 circuit board is pre-mounted inside the box to the removable panel assembly. The panel assembly can be removed to enable installation of the box and cabling. The removable module terminals allows pre-terminating the cabling prior to re-installing the panel assembly.

## MAIN POWER WIRING

Main Power is needed to power up the ADC control circuitry and is fused by the on-board ½ Amp. **ADC POWER FUSE**. Connect the correct DC power to the **MAIN POWER** terminals - 12 or 24 VDC (terminals 15-16). Incorrect wiring at the power or other input terminals may cause damage to input circuitry or a blown fuse. Main Power to the 201839 should never fail when a Fire Alarm is active. Verify all wiring prior to power up. The required input voltage is marked on the unit from the factory next to the fuse. If the input voltage is incorrect for your application, only the (4) removable relays can be exchanged without having to return the entire unit to BASE - contact BASE to arrange the relay exchange.

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**WIRING**

Wiring is terminated at the depluggable terminal strips as shown in Figure 1.0. Two inputs are provided for wiring entry request devices. These inputs operate differently during Night or Day operation. When in Night mode (D-N contact open), devices wired to input A only will unlock the door and signal the auto door to operate. In this mode, devices wired to input B will have no effect. When in Day mode (D-N contact closed), the door will already be unlocked, and devices wired to input A and/or B will only signal the auto door to operate.

Wire entry request devices to be active during Night mode to Input A **PPA INT** (1-2). Wire entry request devices to be inactive during night mode (like an outside pushbutton or MW detector) to input B **PPB EXT** (3-4).

When using an access control system, wire the access controllers' lock output contact to the **ACC CTL** terminals (7-8) and set for 1 second duration. This input also activates input A.

Wire a Day-Night dry contact control to the **D-N CTL** terminals (9-10).

If a request-to-exit must be provided to an access controller, an open dry contact is provided at the **RTE** terminals that close when Relay LR2 is ON (door is unlocked).

The **LM** status LED is provided as a Lock Monitor. The Lock Monitor circuitry is preconfigured on the board. This enables a technician to see that the 201839 is sensing that the Lock has unlocked - which is required before the 201839 will enable the Auto Door output.

**LOCK POWER AND LOCK RELAYS LR1 AND LR2**

LR1 is the Primary Lock Relay and controls the Door Lock. Power for the Door Lock should enter at the **LOCK PWR** terminals (19-20). This power can be a Fail-Secure or Fail-Safe type power source. The Lock type must match the Power type - that is, if Fail-Safe power is used, then a Fail-Safe type Lock must be used, and Dipswitch 1 should be set to Fail-Safe.

Wire the Lock to the **LR1 CTL** Terminals (17-18). There should be no other lock control devices or contacts in the line from the **LR1 CTL** terminals to the Lock. If otherwise, the 201839 may not be properly sensing that the Lock has unlocked.

LR2 is the Secondary Lock Relay and only operates in Fail-Secure mode (de-energized when door is locked). The **LR2 CTL** output terminals (13-14) can control another Fail-Secure locking device if needed. This output uses the **MAIN PWR** source for operating this device. *The 201839 will not sense this output for Lock Monitoring. Do not use this output to control the primary Door Lock.*

**AUX RELAY**

The Aux Relay is an independent SPDT relay available for a variety of auxillary functions. Examples of possible functions are shown in Figures 2 and 3.

**FAIL-SAFE / FAIL-SECURE DIPSWITCH**

Set dipswitch 1 for the type of electric lock being used, Fail-Safe or Fail-Secure. Both the LM input and LR1 Lock Relay will reverse their operation when dipswitch 1 has changed from Fail-Safe to Fail-Secure or vice-versa.

Dipswitch 1	LM Input		Lock Relay LR1		Lock Relay LR2	
Position	Off means door is;	On means door is;	Off when;	On when;	Off when;	On when;
Fail-Secure	Locked	Unlocked	Locked	Unlocked	Locked	Unlocked
Fail-Safe	Unlocked	Locked	Unlocked	Locked	Locked	Unlocked

**TIMER SETTINGS**

LOCK TIME is the number of seconds that the Lock will be unlocked before the Auto Door Output is activated. Set this timer by selecting the desired additive dipswitches to the On position. Maximum setting is 1+2+4+8 = 15 sec.

AUTO DOOR TIME is the number of seconds that the Auto Door Output will be activated. (The Lock Output will also remain activated during the Auto Door output time period.) Set this timer by selecting the desired additive dipswitches to the On position. Maximum setting is 1+2+4 = 7 sec. (Maximum total unlock time = 15+7 = 22 sec.)

Minimum Timer Settings - If no dipswitches are turned on, timing will automatically be set to 1 Second.

**OPERATION**

When power is applied, the Green power lamp will light. The Yellow input LEDs will light whenever the associated input is 'On' (contact closed). The LM LED will light whenever power to the door lock is 'On'. The Red output LEDs will light whenever the associated output relay is energized.

DAY OPERATION - Whenever the D-N input contact is closed, the unit will run in Day mode. This will activate or de-activate the Lock output to unlock the door (depending on fail-safe or fail-secure setting). While in day mode, operation of an Entry Request Device on Input A or B will activate the Autodoor output for the Auto Door Time period. If the unlocked door is not being sensed at the LM terminals, then the Auto Door Output will not activate.

NIGHT OPERATION - Whenever the D-N input contact is open, the unit will run in Night mode. This will activate or de-activate the Lock output to lock the door (depending on fail-safe or fail-secure setting). While in night mode, operation of an Entry Request Device on Input A only will first unlock the door for the Lock Time period, and then activate the Autodoor output for the Auto Door Time period. At the end of both time periods, the door will re-lock. If the unlocked door is not being sensed at the LM terminals, then the Auto Door Output will not activate. In Night mode, devices connected to Input B will have no effect.

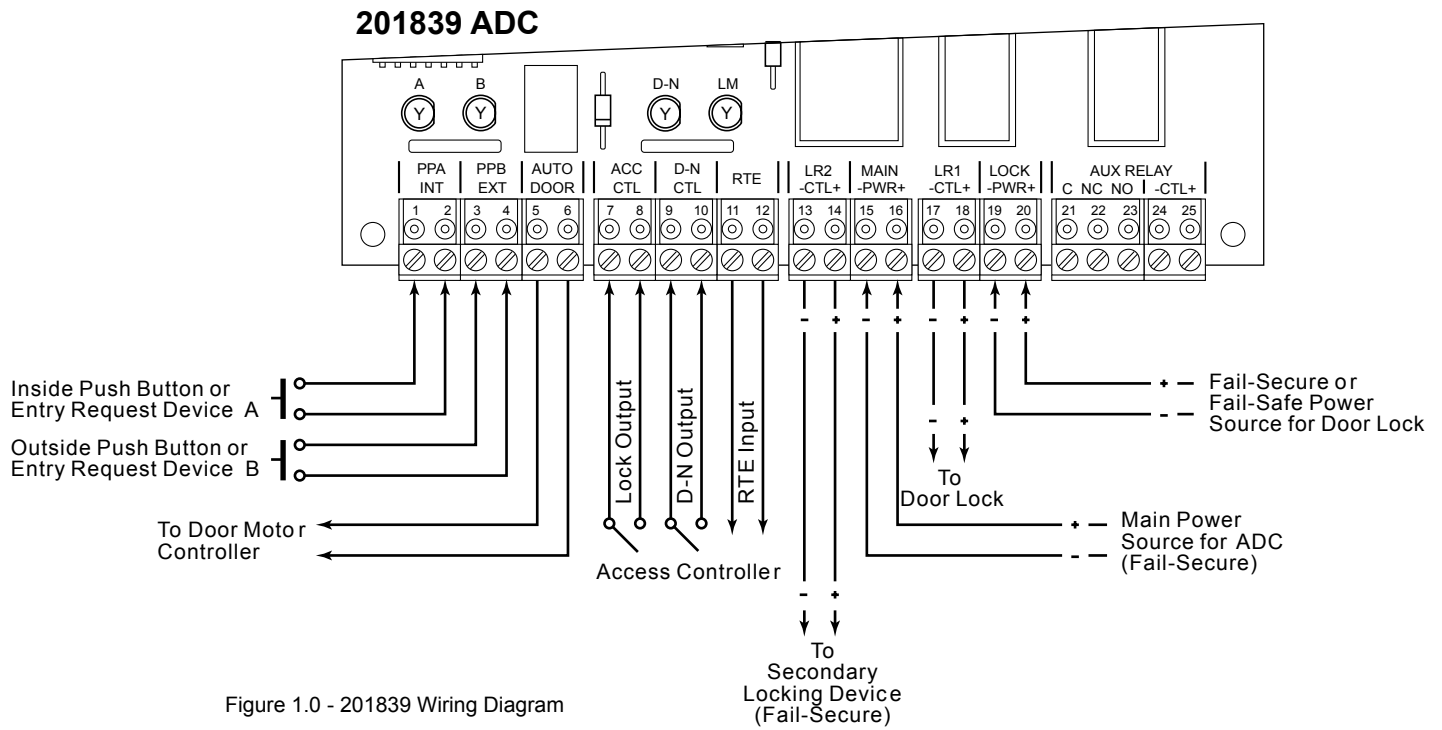


Figure 1.0 - 201839 Wiring Diagram

In this application example, a fail-secure panic bar latch (the Secondary Locking Device) is normally being controlled by the LR2 control output (when the door is unlocked). However, to save wear and tear on the panic latch, the Aux relay (normally energized) is being used to power the panic bar, unless a Fire Alarm de-energizes the Aux Relay, in which case the panic bar operation reverts back to normal via the LR2 control output.

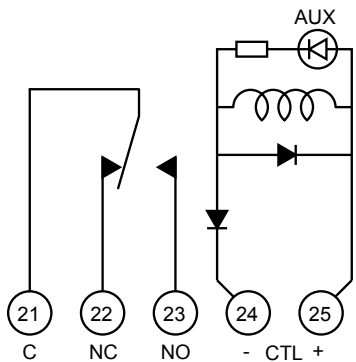


Figure 2.0 - Auxiliary Relay Schematic Diagram

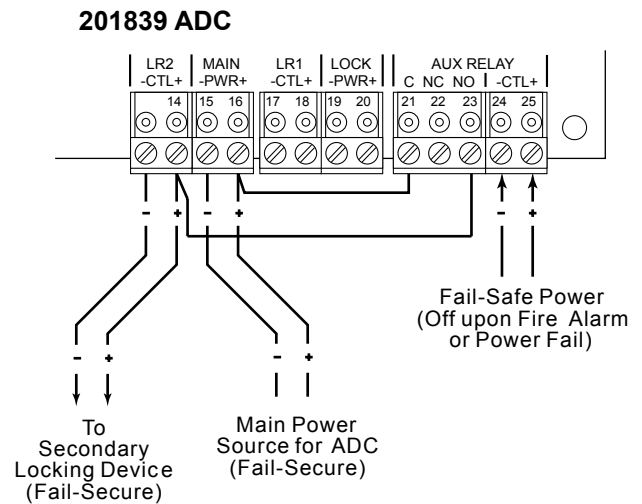
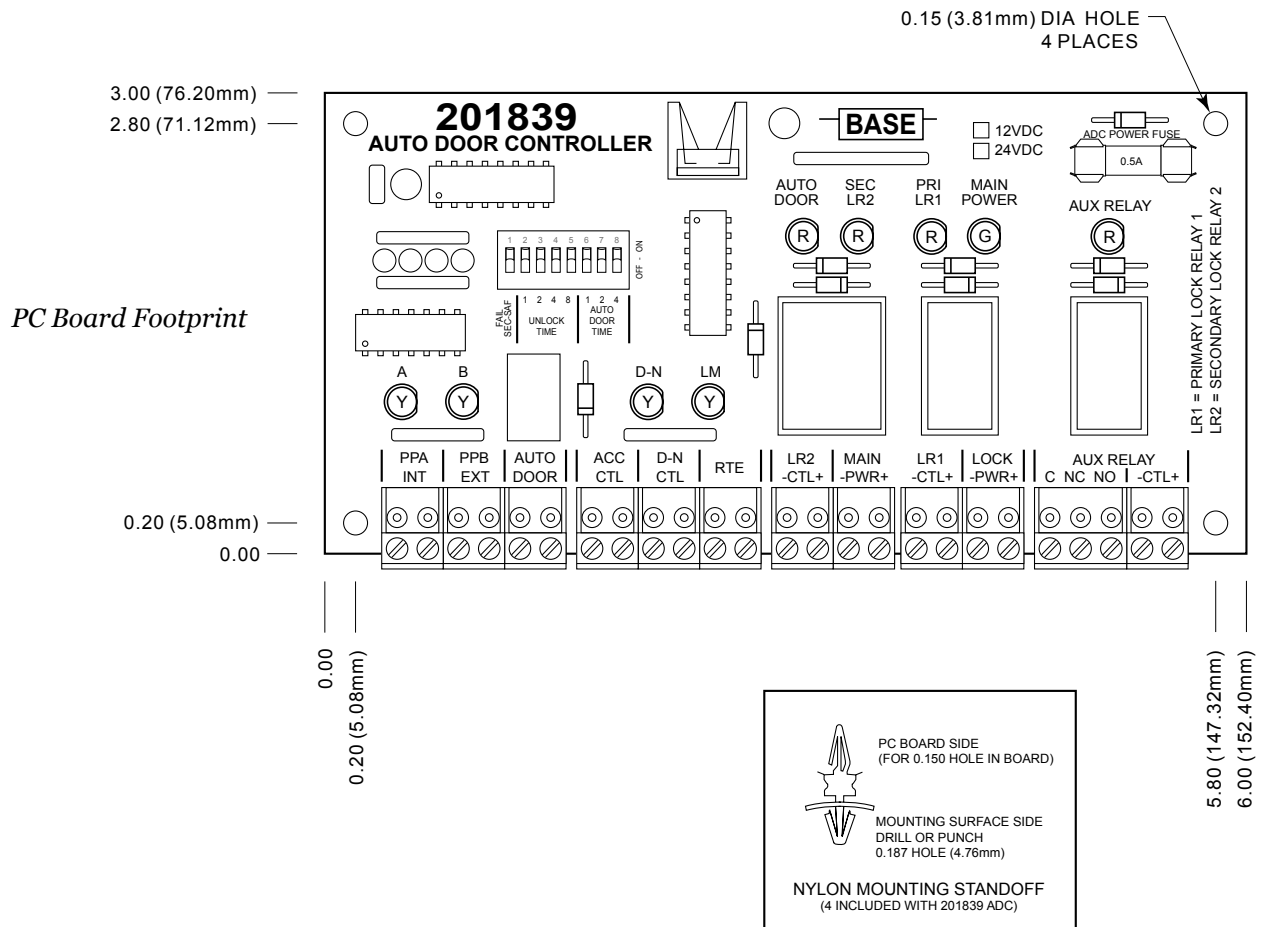


Figure 3.0 - Example of Application for Auxiliary Relay

# 201839 Auto Door Controller



## 201839 Auto Door Controller Specifications

- Indoor Temperature Range: -25° C. to +70°C.
- Electrical
  - Main Power Operating Voltage: 12 or 24VDC, Fused at 0.5A
  - Operating Current Draw: 150 mA
  - LR1, LR2, Aux Relay Contact Rating: 10A
  - Auto Door Relay Contact Rating: 2A
  - Connections: Depluggable Screw Terminals for #14 to #24AWG Wire
- Controls and Indicators
  - 8-Position Dipswitch for Options settings
  - Fail-Safe or Fail-Secure operation with no wiring differences
  - LED Status Indicators for all Inputs/Outputs
  - Removable/Replaceable Output Relays
- Size: 3.00 (76.20) wide by 6.00 (152.40) [ inches (mm) ]
- Mounting: (4) 1/4 inch high nylon standoffs included
- Models
  - 201839 Board Only
  - 201839B 201839 Mounted in EB-12x12x04KP Enclosure
- Other related BASE products
  - 201235 Auto Door Controller
  - Micro-Series Power Distribution Modules
  - Custom Prewired Power Cabinet Assemblies

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The information in this manual is believed to be accurate in all respects. However, BASE Electronics cannot assume responsibility for any consequences resulting from the use thereof. The information contained herein is subject to change and BASE Electronics may issue a revision to incorporate such changes at any time.

### Limited Warranty

The 201839 is warranted by BASE Electronics against manufacturing defects in materials and workmanship for a period of 1 year from date of purchase. During this period, any warranty repair required will be made at no charge for parts or labor. This warranty does not apply to any work or materials provided by any outside persons or technicians involved in the installation, unauthorized repair, connection, or testing of this product. This warranty does not cover any damage or failure caused by or attributable to Acts of God, abuse, misuse, improper or abnormal usage, faulty or improper installation or maintenance, neglect or accident. BASE Electronics is not responsible or liable for any special, consequential or indirect damages resulting from or in connection with the use or performance of this product as pertaining to economic loss, property loss, costs for removal or installation, or loss of revenues or profit. Except as provided herein, BASE Electronics makes no expressed or implied warranties. The duration of product performance for its intended purpose is limited to the duration set forth herein.

For Warranty or other repair, send the product postage prepaid to BASE Electronics and include Sender's name, company, address, phone and brief problem description. BASE Electronics will notify sender of any required repair costs not covered under this warranty prior to making such repairs.

*This Warranty gives you specific legal rights. You may have other rights that vary from state to state.*

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